

IN THE CLAIMS:

Claims 1-7 (cancelled).

8. (Previously Presented) A pulsed laser arrangement for generating laser pulses with adjustable pulse length comprising:

a diode-pumped, Q-switched solid state laser with variable oscillator output is provided for supplying oscillator pulses;

a multistage laser amplifier in which an amplifying medium with a small-signal amplification of more than 10 being provided in every stage which is arranged downstream of the Q-switched solid state laser oscillator; and

wherein the total small-signal amplification brought about by all of the amplifying media is greater than 1000.

9. (Currently Amended) The pulsed laser arrangement according to claim 8, wherein the mode-matched beams of the a pump radiation and of the laser radiation to be amplified have a mode cross section of less than 0.5 mm^2 in every amplifying medium.

10. (Previously Presented) The pulsed laser arrangement according to claim 8, wherein the solid state laser oscillator contains as active medium an anisotropic laser crystal which is pumped by an asymmetric pump beam whose cross section has different dimensions perpendicular to one another and which is traversed by a laser beam cross section which is adapted to this asymmetry and which has an axial ratio in directions extending perpendicular to one another of greater than 1:1 and less than 1:3.

11. (Currently Amended) The pulsed laser arrangement according to claim 10, wherein the an axis of the crystallographic axes of the anisotropic laser crystal in whose direction the highest value of the crystal stress limit is present is oriented along the greatest

Serial No.: 10/521,088

temperature gradient located in direction of the smaller dimension of the pump beam cross section.

12. (Previously Presented) The pulsed laser arrangement according to claim 11, wherein the anisotropic laser crystal, which contains a crystal cross section which is traversed by the pump beam and which has crystal edges of different length oppositely located parallel to one another in pairs, has its greatest thermal expansion coefficient in the direction of the smaller dimension of the pump beam cross section and parallel to the crystal edge with the shorter edge length.

13. (Previously Presented) A method for adjusting the pulse length of laser pulses comprising the steps of:

varying the output of a diode-pumped Q-switched solid state laser oscillator for providing oscillator pulses, including the further step of supplying the oscillator pulses to a multistage laser amplifier and amplifying them in every stage by a small-signal amplification of greater than 10, but at least with a total small-signal amplification of greater than 1000.

14. (Currently Amended) The method according to claim 13, wherein the pulse length is adjusted by changing ~~the~~ a pump beam output by means of ~~the~~ a diode current of the pump beam source.